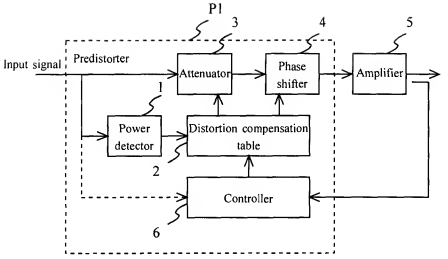

PI
3
4
5
Input signal
Predistorter
Attenuator
Phase shifter
Amplifier
1
Power detector
Distortion compensation table
2
Controller
6

Fig.1

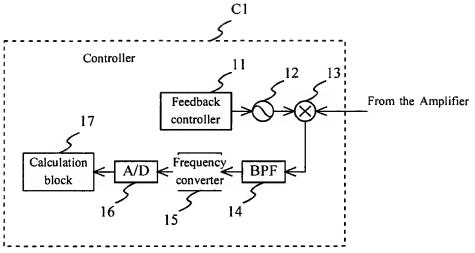
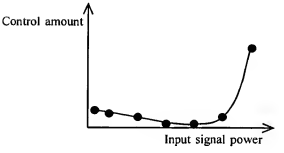

C1
Controller
11
12
13
Feedback controller
From the Amplifier
17
Calculation block
A/D
Frequency converter
BPF
16
15
14

Fig.2

Range of the distortion amount (or error signal) E	Number of interpolation points	Magnitude of E	Number of points in A
Th1 < E	A1	Large	Small
Th2 < E ≦ Th1	A2		
⋮	⋮		
Th(N-1) < E ≦ Th(N-2)	A(N-1)		
0 ≦ E ≦ Th(N-1)	A(N)	Small	Large

Fig.3

(a) Case in which the number of interpolation points is small (e.g.,a table in the midst of convergence)



(b) Case in which the number of interpolation points is large (e.g.,an optimized table)

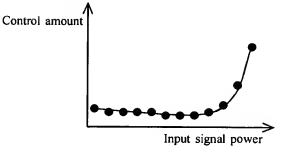
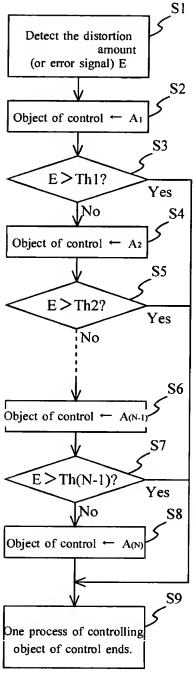


Fig.4



Threshold values for the distortion amount (or error signal) $Th_1 > Th_2 > \ldots > Th_{(N-2)} > Th_{(N-1)}$

Fig.5

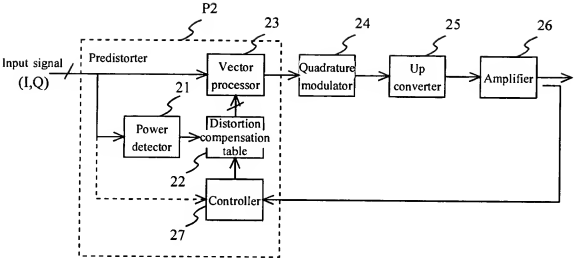

P2
23
24
25
26
Input signal
(I,Q)
Predistorter
Vector processor
Quadrature modulator
Up converter
Amplifier
21
Power detector
Distortion compensation table
22
Controller
27

Fig.6

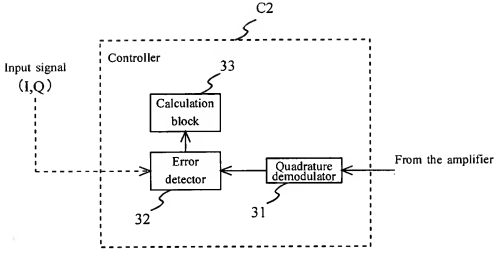

C2
Controller
33
Input signal
(I,Q)
Calculation block
Error detector
Quadrature demodulator
From the amplifier
32
31

Fig.7

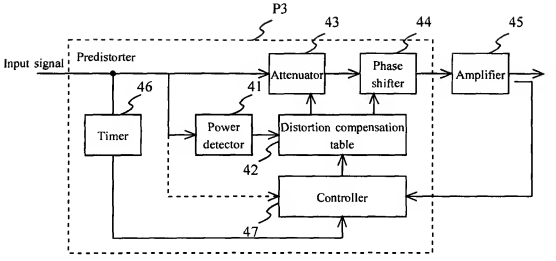
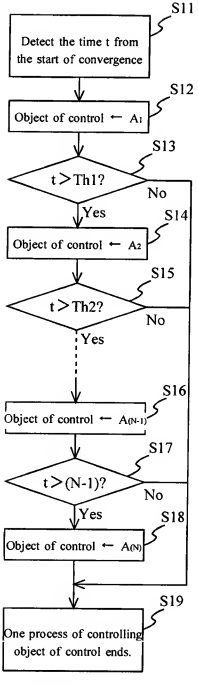

P3
43
44
45
Input signal
Predistorter
Attenuator
Phase shifter
Amplifier
46
41
Timer
Power detector
Distortion compensation table
42
Controller
47

Fig.8

Range of the time t from the start of convergance	Number of interpolation points	Magnitude of t	Number of points in A
$0 < t \leqq T1$	A1	Small ↓ Large	Small ↓ Large
$T1 < t \leqq T2$	A2		
⋮	⋮		
$T(N-2) < t \leqq T(N-1)$	A(N-1)		
$T(N-1) < t$	A(N)		

Fig.9



Threshold values for time from the start of convergence: $T_1 < T_2 < \ldots < T_{(N-2)} < T_{(N-1)}$

Fig.10

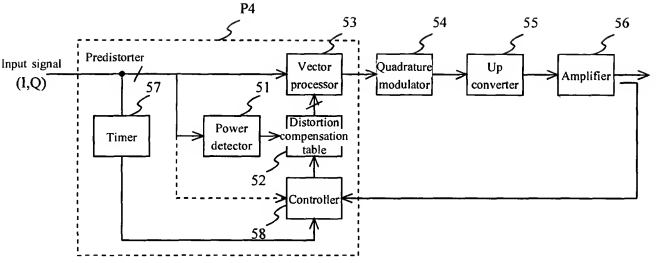

P4
53
54
55
56
Input signal
(I,Q)
Predistorter
Vector processor
Quadrature modulator
Up converter
Amplifier
57
51
Timer
Power detector
Distortion compensation table
52
Controller
58

Fig.11

Range of the distortion amount (or error signal) E	Interpolation point updata amount	Magnitude of E	Magnitude of the Interpolation point updata amount (A)
Th1 < E	A1	Large ↓ Small	Large ↓ Small
Th2 < E ≦ Th1	A2		
⋮	⋮		
Th(N-1) < E ≦ Th(N-2)	A(N-1)		
0 ≦ E ≦ Th(N-1)	A(N)		

Fig.12

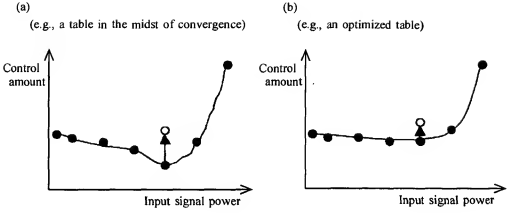

(a)
(e.g., a table in the midst of convergence)
Control amount
Input signal power
(b)
(e.g., an optimized table)
Control amount
Input signal power

Fig.13

Range of the time t from the start of convergence	Interpolation point updata amount	Magnitude of t	Magnitude of the Interpolation point updata amount (A)
$0 < t \leqq T1$	A1	Small ↓ Large	Large ↓ Small
$T1 < t \leqq T2$	A2		
⋮	⋮		
$T(N-2) < t \leqq T(N-1)$	A(N-1)		
$T(N-1) < t$	A(N)		

Fig.14

Range of the distortion amount (or error signal) E	Interpolation point updata frequency	Magnitude of E	Magnitude of the interpolation point updata frequency (A)
Th1 < E	A1	Large ↓ Small	High ↓ Low
Th2 < E ≦ Th1	A2		
⋮	⋮		
Th(N-1) < E ≦ Th(N-2)	A(N-1)		
0 ≦ E ≦ Th(N-1)	A(N)		

Fig.15

Range of the time t from the start of convergence	Interpolation point updata amount	Magnitude of t	Magnitude of the interpolation point updata frequency (A)
$0 < t \leqq T1$	A1	Small	High
$T1 < t \leqq T2$	A2	↓	↓
⋮	⋮		
$T(N-2) < t \leqq T(N-1)$	A(N-1)		
$T(N-1) < t$	A(N)	Large	Low

Fig.16